

Magnesium may be as important to kids' bone health as calcium

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Parents are advised to make sure their children drink milk and eat other calcium-rich foods to build strong bones. Soon, they also may be urged to make sure their kids eat salmon, almonds and other foods high in magnesium—another nutrient that may play an important role in bone health, according to a study to be presented Sunday, May 5, at the Pediatric Academic Societies (PAS) annual meeting in Washington, DC.

"Lots of nutrients are key for children to have healthy bones. One of these appears to be magnesium," said lead author Steven A. Abrams MD, FAAP, professor of pediatrics at Baylor College of Medicine in Houston. "Calcium is important, but, except for those children and adolescents with very low intakes, may not be more important than magnesium."

While it is known that magnesium is important for [bone health](#) in adults, few studies have looked at whether magnesium intake and absorption are related to bone mineral content in young children. This study aimed to fill that gap.

Researchers recruited 63 healthy children ages 4 to 8 years old who were not taking any multivitamins or minerals to participate in the study. Children were hospitalized overnight twice so their calcium and magnesium levels could be measured.

Participants filled out [food diaries](#) prior to hospitalization. All foods and beverages served during their [hospital](#) stay contained the same amount of

calcium and magnesium they consumed in a typical day based on the diaries. Foods and beverages were weighed before and after each meal to determine how much calcium and magnesium the subjects actually consumed. In addition, parents were given scales to weigh their child's food for three days at home after the first inpatient stay and for three days at home prior to the second inpatient stay so that [dietary intake](#) of calcium and magnesium could be calculated accurately.

While hospitalized, children's levels of calcium and magnesium were measured using a technique that involved giving them non-radioactive forms of magnesium and calcium, called stable isotopes, intravenously and orally. Urine was collected for 72 hours. By measuring the stable isotopes in the urine, the researchers could determine how much calcium and magnesium were absorbed into the body. Bone mineral content and density were measured using total body dual-energy X-ray absorptiometry.

Results showed that the amounts of magnesium consumed and absorbed were key predictors of how much bone children had. Dietary calcium intake, however, was not significantly associated with total [bone mineral content](#) or density.

"We believe it is important for children to have a balanced, healthy diet with good sources of minerals, including both calcium and [magnesium](#)," Dr. Abrams concluded.

More information: To view the abstract, "Magnesium but Not Calcium Intake Is Significantly Associated with Bone Mineral Status in 4 to 8 Year Old Children," go to www.abstracts2view.com/pas/view...hp?nu=PAS13L1_2715.3

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